

Final Meeting Notes: Community Advisory Group (CAG)  
Aerojet General Corporation Superfund Site Issues  
Meeting Date: May 18, 2016

**1. Introductions and Attendees**

Janis Heple, CAG Chair, began the meeting with introductions.

Attendees:

- Allen Quynn, City of Rancho Cordova
- Alex MacDonald, RWQCB
- Alta Tura, Sacramento Area Creeks Council
- Brian Rinde, Golden State Water Agency Company
- Burt Hodges, SARA
- Caleb Shaffer, U.S. Environmental Protection Agency (EPA)
- Chris Fennessy, Aerojet Rocketdyne (Aerojet)
- Dan York, Sacramento Suburban Water District
- Jackie Lane, U.S. Environmental Protection Agency (EPA)
- Janis Heple, CAG Chair
- Jim Rohrer, Department of Toxic Substances Control (DTSC)
- Jimmy Spearow, CAG Member
- John Valdes, Sacramento Suburban Water District
- Stephen Green, SARA
- Tammy Teurn, HDR – EPA Contractor

Draft Meeting Notes from March 16, 2016 (no comments; minutes can be finalized)

**EPA Update – Caleb Shaffer**

Two of EPA's top priorities currently:

- 1) Groundwater
  - a. Investing and spending time on groundwater, especially in western region. Priority is to protect groundwater and groundwater resiliency, especially in California with historic drought on record and impacts due to climate change. Superfund sites are adjacent to water purveyors in many areas. While Aerojet's GET systems do not directly deliver treated groundwater to a groundwater purveyor at the Aerojet site, groundwater migrating around the Aerojet site can eventually find its way into water supply wells in the community.
  - b. Engaging multiple forums across the state and proactively working to accelerate groundwater protection. Common in southern California with critical stakeholders at the table as design of remedies are being formulated.
  - c. Working to research innovative technology to speed clean up, applying remediation to southern California groundwater/drinking water is a critical priority for EPA.
- 2) Emerging Contaminants
  - a. Historically, several chemicals and contaminants previously thought to be safe were not. Constantly monitoring for emerging contaminants as there are generally not enough information or health studies on these.
  - b. Interested in lead contaminants in drinking water. Administrators said perfluorinated compounds is an area of equal concern to drinking water as lead is.

Reevaluating what current standards are for compounds in the realm of drinking water (agency = drinking water nexus).

- c. Perfluorinated compound more of a problem on east coast, especially with companies such as near the facilities that produced those compounds like Dupont and 3M. Compound often found associated with military facilities and hasn't yet shown to be as much of a problem on west coast. One of the manufacturing facilities is a Superfund site in New York. The production of them a number of them has been phased out.

**Q: What about contaminants in the Aerojet's groundwater?**

*C. Shaffer: We will be looking for perfluorinated compounds in the groundwater at Aerojet.*

**Q: Is it no longer manufactured in the U.S. because shorter version perfluorinated butane was being manufactured?**

*C. Shaffer: The two compounds EPA is mainly interested in are PFOA and PFOS, which are no longer manufactured. There were eight manufacturing companies that phased out production of these chemicals. It's a broad class of compounds with hundreds of them.*

**Q: Why all of a sudden are we hearing about this now?**

*C. Shaffer: New health studies and chemical evaluations are a constantly emerging science that we continuously evaluate, and revise our standards for cleanup. We haven't heard as much of this on the west coast as the majority of the manufacturing for it was done on the east coast.*

**Q: Are we worried that maybe that's something that could happen here?**

*C. Shaffer: No, their wastewater was being discharged in the groundwater. We looked at regions in our site associated with air force bases and haven't found anything historically yet, but there's currently no regulations for it.*

**Q: Is this in response to the Flint, MI issue? Is there something that's triggering EPA?**

*C. Shaffer: No, UCMR 3 is the most recent round of sampling required of water purveyors to look at unregulated chemicals that may be of concern. Perfluorinated compounds were first sampled for under UCMR-3. Rules existed for a while and every public water system has to comply with it.*

**Q: You've had these issues back east for a long time, why now?**

*C. Shaffer: Because the results of the third round (UCMR-3) recently became available.*

We continue to track contaminants and will continue health studies on chemicals whether it's a goal or an MCL. We're interested in health studies so we'll continue to evaluate them. Flint definitely put a spotlight on drinking water contaminants in general.

**2. Aerojet Community Update – Chris Fennessy, Aerojet**

- Aerojet was awarded the Arkansas Department of Environmental Quality (ADEQ) TECHe Award for installing 12 MW solar farm in East Camden, Arkansas. This solar farm is capable of generating 30 megawatts per year, which is equivalent to powering 2,500 residential homes. ADEQ TECHe Award honors organizations protecting

resources or improving the environment as well as efforts to enhance and protect Arkansas' natural resources. It's the first environmental stewardship award for Aerojet identifying sustainable projects.

- Recent press release announcing Aerojet Rocketdyne Holdings, Inc., Aerojet Rocketdyne, Inc.'s parent company, headquarters is relocating from Rancho Cordova to El Segundo in Los Angeles County. Move is part of the consolidation of Aerojet and Rocketdyne. While a small number of staff will be moving, local operations in Sacramento will remain intact. El Segundo offices will formally open in late June or early July 2016.

### **3. Water Board Response on One or More EPA-Submitted Documents by Aerojet – Alex MacDonald, RWQCB**

Discussed reports coming in and recently submitted

- Reports belong to various categories and the first on the list is a routine monitoring report based on various things including what's being done under Partial Consent Decree, etc.
- The American River Study Area has had ongoing quarterly groundwater monitor reports since 1998. Eventually the American River Study Area monitoring and analysis will be incorporated into the OU 5 monitoring and reporting.
- A standard groundwater monitor report has a data dump, figures showing well locations and concentrations of pollutants and figures showing concentration trends in selected wells (where things increase and decrease).
- White Rock Road North Dump is near where well 4676 is. Ongoing groundwater monitoring report is produced twice a year.
- Groundwater Monitor Reports are now pretty standard and straight forward. There tends to be minor comments on them (i.e. contour line not drawn correctly). There can be major comments when discussing the results of the groundwater monitoring and the assessment of capture of the plumes.

#### **Q: Who sees those reports?**

*A. MacDonald: I see them and log them into GeoTracker, which generally has only reports going back to 2014 when the requirement to populate GeoTracker occurred. Some older reports that are in an electronic format are also being uploaded.*

#### **Q: What's the URL?**

*A. MacDonald: Go to [GeoTracker](#) in your browser and it'll get you there. GeoTracker is on the SWRCB website and you can get to it by also going there.*

#### **Environmental Project Report:**

- Covers over next year including project description, cost, explanation of what Aerojet's finances are, how much spent in the past vs. current cost, etc. Essentially ensures Aerojet is proposing everything they're supposed to do and that they have the finances to pay for it. It also allows the Agencies to think of other projects they could/should or potentially do and determine if there is sufficient funds to do this fiscal year.

Program Modification Report:

- Program plan that Aerojet submitted under Partial Consent Decree that includes schedule, OU locations, etc. goes through RI/FS, Record of Decision (ROD) and completion. As something comes up, schedule and table for tracking projects gets modified.
- RI/FS reports don't come in frequently, usually every three to four years. The document can include five to seven volumes, followed by a Risk Assessment.
- RI for Area 40 was finalized and all comments received. Next step is to submit the feasibility study to evaluate and propose remedial options. After an FS EPA then writes proposed plan which the public comments on and this then leads to the ROD.
- City of Folsom is proposing developing Area 40 into a park and open space. Area 40 has high concentrations of pollutants in small areas that will require some remediation prior to development.
- For OU6, the Off-Road Vehicle Park was transferred from OU6 to OU7 due to ecological risk issues.

**Q: Can I get the RI for Area 40?**

*A. MacDonald: Yes, it's a public document.*

*C. Fennessy: The Draft IOU RI was submitted in 2014 and included Area 40. As mentioned in the last meeting, as soon as it is finalized and USEPA allows publication, it will be posted at the libraries.*

**Q: It's finalized before the public has an opportunity to comment on it?**

*C. Fennessy: That's the process.*

*A. MacDonald: There's still time to review and comment if you have concerns.*

*C. Fennessy: The final Area 40 RI is scheduled to come out by end of June. We received comments from agencies and submitted it to EPA. Any time a document is submitted to the agencies, it becomes a public document.*

**Q: Where are we on the state managing Area 40?**

*A. MacDonald: As I understand, EPA is turning Area 40 over to DTSC once the feasibility study is done.*

*C. Shaffer: We're at a better point to transition now from EPA to agencies, which will occur in 2017 with the FS.*

**Action item:** Send list out as minutes to this meeting since no copies available tonight.

ROD Western Groundwater OU3 and Perimeter Groundwater OU5:

- Quarterly monitoring compliance report shows whether plume is expanding past capture area or approaching certain water wells.
- Allows time to take action before issue occurs.

Performance Evaluation Report:

- Is extraction system containing what it's supposed?
- For the Perimeter Groundwater OU, the report is showing non capture in a lot of areas due to the extraction and treatment systems have not been fully completed in several areas. The reports come on an annual basis.

- For the Western Groundwater OU, capture is generally well defined, except a couple small areas.

#### Groundwater Model Update:

- Shows pumping tests and groundwater aquifer information.
- Applies new information to revise inputs into the model. The model is then updated. The model is then used as one method to show how extraction systems are performing.
- Last model update was submitted August 2015.

#### Groundwater Monitoring Plan:

- Evolved into a site-wide monitoring plan over the years.
- Cleanup and Abatement orders for American River area requires groundwater monitoring and those requirements have been included in the overall plan, along with the requirements from the Operable Unit RODs.
- The annual plan is a thick report with a CD of appendices. A review usually produces 5-6 pages of comments and takes 2-3 months of time to review.
- Report explains all the monitoring that needs to be conducted.
- EPA just sent comments on plan and echoes RWQCB concerns (i.e. the need for additional monitoring wells to be sampled or added to the program, and includes ancillary issues to the groundwater monitoring plan that were generated during a review of the report.

#### Draft Short-term Water Replacement Contingency Plan:

- Aerojet required to have a plan in place whereby if a water supply well is required to be shut off due contamination, Aerojet is required to supply replacement water.
- If it will require years, a short-term plan (replacement within 24 hours) needs to be in place until a long term plan replacement is provided.
- Agreements with water companies have been negotiated in place since first plan in under the Western Groundwater OU ROD in 2001. Those agreements are incorporate into the plan.
- Our comments include the need for Aerojet to provide something from water purveyors explaining plan is sufficient for their needs.
- Under their water permits the purveyors must demonstrate they're supplying safe water.
- CalAm, Fair Oaks and Carmichael Water Districts are affected by Aerojet. If plumes approach a certain distance of a supply well, then Aerojet is required to include the well in the plan and work with water purveyor on the issue.
- Private water supply wells present different problems.
- The second component or the plan is long term contingency plan to permanently replace a lost water supply within 18 months.

#### **Q: How close of a distance will you reach Sacramento Suburban Water District boundaries before notifying and taking action?**

*A. MacDonald: Under the ROD the distance is 2,000 feet. Agreement with Golden State goes beyond what's been lost already. In addition, there's a water supply well that serves a mobile home park at Folsom and Mather Field. Aerojet is proposing to hook up the mobile home park to*

*Golden State Water before the plume reaches their well. They can then turn on the Golden State Water whenever it is needed.*

OU5/Area 4900 Soil Vapor Extraction System:

- Submitted work plan to put in extra wells and obtained permit from air district.
- First quarterly report was recently submitted (last of reports that just came in) showing within treatment system discharge limits.
- Will also be submitting performance evaluation reports (first one to arrive in June or beginning of July).

Landfill Area (gray area in far east corner of map):

- Submitted work plan for pilot testing, which will have trenching to show how to do the full-scale, how it's going to lay out and work.
- The full-scale project will have Aerojet removing the landfill and hauling it off.
- On the pilot testing work plan, the Agencies provided comments, Aerojet got approval and grading plan, will go into field soon to test.

**Q: All of this information is very valuable. Are we able to piece this into the minutes somehow so we can point to certain areas?**

*A. MacDonald: This table for the reports is available. I have it in Excel and PDF forms, which can be copied into Word.*

**Q. CAG would like to be able to comment more than just on the FS. We understand it's a lot of work to be able to do that, but as a community affected by this, we feel it's important for us to comment.**

*J. Heple: Alex mentioned GeoTracker. I talked to Caleb tonight and it has come up a number of times with CAG being copied with EPA review. I will make sure to interface with Jackie, along with Allan, as the second person to obtain information.*

Chris provided CDs of the IOU RI report at the last meeting so be sure to request it if interested. Janis then indicated she has a box of binders/reports available in her car if someone is interested in taking them for the next two months. Jimmy expressed interest in taking the binders.

#### **4. Progress on Review of Island Operable Unit (OU-7) Remedial Investigation Report – Chris Fennessy, Aerojet**

Chris Fennessy presented information from the remedial investigation for the Island OU. At last meeting he walked through reports and formatting. Purpose tonight is to solicit feedback. Has anyone looked at it? Is there difficulty finding a specific document or certain information? Are there any comments or questions you need help with?

**Q: On the maps, I found there was a lack of specifications, it doesn't show the degrees. You're sort of on your own and how it relates to the site. Can we add an inset?**

*C. Fennessy: It may be beneficial to include an inset zooming in each area.*

*A. MacDonald: The first figure for every area shows a box within that line and section.*

Extra data is being gathered on eco-risk assessment. It's not the final of the RI so the public still has an opportunity to review, but Area 40 is on tighter schedule.

**Q. The list of acronym was really helpful as there were a lot I didn't know, specifically Management Area. It's good to have and interesting, there's just a lot there.**

*C. Fennessy: Due to the complexity and voluminous amounts of data, the information is presented primarily with tables and figures, rather than text. We are always looking for feedback on better ways to present. Two bigger reports are coming so be sure to let us know what you find challenging.*

**Q: When you say it's not the biggest one, are you referring to OU7?**

*C. Fennessy: Correct, OU8 and OU9 will have more source areas than OU7, so they will be larger.*

**Q: Sacramento Suburban Water District Board Members are more visual; however, this map is too busy. Can we get this map with less clutter?**

*A. MacDonald: Yes, it'll be easy for me to take off stuff and provide a simpler map*

**Q: How often do you work on the map?**

*A. MacDonald: Once for each CAG meeting or more often if the need arises. One of the Sacramento Suburban Water Board members asked me to come back each month.*

**Q: For the RI Report, do you do it in-house or use consultants?**

*C. Fennessy: We use consultants.*

**Q: On one of the figures, it showed plans and permeability and not exactly chemicals itself. Sound familiar?**

*C. Fennessy: Some maps are drawn that way showing different colors for different chemicals.*

**Q. Would like to accept Chris' offer to come to his office and walk through reports so we can better understand where to focus.**

*C. Fennessy: If you have an idea where you want to focus such as the main source for chemical groundwater or you're interested in perchlorate, etc. I can help. To walk through the entire documents is more challenging.*

**Q: I see the RI for Area 39, but not Area 40. Where can I find that?**

*C. Fennessy: Not sure if we took it out in this version or not, but it might be near the last section before references.*

*A. MacDonald: You were going to put it in the appendix in the last part of the document.*

*C. Fennessy: The report shows data collected through 2007, but data collected more recently to complete the Area 40 specific RI was not available when the IOU RI was published. That data is available on GeoTracker.*

## **5. Regional Board Aerojet Cleanup Overview – Alex MacDonald, RWQCB**

Note: A schedule and map were distributed

**Q: Can you tell us what “George’s Abode” is?**

*A. MacDonald: That was to give George a better view of where his home is located on the map. He hasn’t been back since I placed it on there. I will take it off for the next meeting.*

- Groundwater monitoring and extraction wells indicated by yellow diamonds.
- Black dots means wells have been completed (all four put in and used to evaluate where to put wells in to capture).
- Two wells will be put in by end of this year.
- Diamond near GET LA constructed this week is used to better capture zone.
- Three extraction wells in GR towards north (layer E designed to hold TCE contamination in place so doesn’t affect GS wells).
- Four diamonds (three completed and fourth near GET LA) layers D&E contamination.
- Fair Oaks area: no sidewalks or utility corridor so it takes a while to find place for wells (wells will be installed going in a couple of weeks).
- The monitor wells help provide data to make sure capture is adequate.
- Aerojet completed all wells near Folsom factory outlet area and are busy monitoring the wells (by Chipmunk icon on the map).

Surface water elevation work at Lake Natoma indicated the lake water level is above groundwater level and therefore the lake is a losing stream.

**GET AB:**

- Extraction well added to the system is located far eastside of Aerojet and found to contain around 50,000 parts per billion perchlorate.
- System wasn’t cost effectively designed to remove high concentration of perchlorate so Aerojet built a wellhead treatment system that includes spent resin.
- Since then, Aerojet built pipeline over to GET EF from the extraction well. This is more cost effective than burning ion exchange.

**GET EF:**

- Currently in process of installing fifth air stripper.
- Aerojet in process of completing extraction wells below the Superfund site on the Inactive Rancho Cordova Test Site.

**Area 49:**

- Constructed many additional wells in area that are already hooked up and doing great; extraction will begin first of July.

**AMPAC:**

- Wanted to put new building in Chemplant 1 area and have proposed it outside of the known contamination area.
- Obtained grading permit and will collect excavated dirt samples to make sure there is no contamination in it – work conducted in next two weeks.
- Chiller pad refrigeration unit at 31-E central operable unit. Area has PCBs and will build chiller pad over it following PCB removal. Work will occur during same time period, within next month.



Inactive Rancho Cordova Test Site (IRCTS):

- Complete capture hasn't been obtained yet. Working with airport to put in seven additional monitoring wells around runway. Plume generally heading right down middle of runway so well can't be put there, only on side.
- Site isn't marked on map, but it is 4,000 acres north of Douglas, west of Grant Line and east of Sunrise (near Gecko icon on map).
- Plume extending onto Mather Field; need to determine how far down it goes and where to put extraction wells.
- Everything on site itself is being buttoned up. Will be demolishing buildings and/or improving security to prevent thieves from stealing copper.
- IRCSTS is finishing electric panel and wellhead improvements by end of year.

**Q: You mentioned two new extraction wells in northwest area. How big will the wells be?**

*A. MacDonald: Yes, between Bajamont and Rossmoor Bar Park. They were evaluating where in that gap to put a well. Not exactly sure how big, but we'll get more information in a month or two. There are not many places to put a treatment plant.*

Jimmy discussed an article regarding a site back in Indiana or somewhere. It was much smaller facility/machine shops releasing TCE in groundwater. They put in an air sparging operation that was malfunctioning for years. Level of TCE and air was eight micrograms per liter. Maximum level for residential area is eight micrograms per cubic meter, not liter. It took EPA 19 months to address this even after identifying it. CAG has raised this issue recently as we can see this happening many times over.

CAG requested to add discussion on next agenda to determine who the appropriate person is regarding air strippers. Janis will work with Chris and Alex to add item on agenda to discuss what's going on now and in the future.

**6. 2016 Meeting Dates**

- July CAG – meeting postponed a week later to Wednesday, July 27, 2016